

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introduced thereinto, said pump light introducing means introducing, as said pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman application, wherein the wavelength of said pump light is more than 1530 nm but not more than 1605 nm, and wherein said pump light introducing means has a semiconductor laser light source as a pump light source for Raman amplification.

2. (Currently Amended) A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introduced thereinto, said pump light introducing means introducing, as said pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman amplification, wherein the wavelength of said pump light is 1535 nm or more but not more than 1605 nm, and wherein said pump light introducing means has a semiconductor laser light source as a pump light source for Raman amplification..

3. (Original) A Raman amplifier according to Claim 1, wherein said pump light introducing means is provided with an Er-doped optical fiber amplifier which amplifies said pump light and introduces said amplified pump light into said optical fiber for Raman amplification.

4. (Previously Presented) A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introduced thereinto, said pump light introducing means introducing, as said pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman amplification, wherein the absolute value of the chromatic dispersion in 1.65 μm wavelength of said optical fiber for Raman amplification is in the range of 0.1 to 10ps/nm/km.

5. (Currently Amended) ~~A Raman amplifier according to Claim 1,~~ A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introduced thereinto, said pump light introducing means introducing, as said pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman application, wherein the wavelength of said pump light is more than 1530 nm but not more than 1605 nm, and wherein the effective area of said optical fiber for Raman amplification at 1.55 μm wavelength is equal to or less than 85% of the effective area at 1.65 μm wavelength.

6. (Previously Presented) An optical transmission system provided with a Raman amplifier in a repeater section thereof, said Raman amplifier being equipped with (1) an optical fiber for Raman-amplification which transmits signal light and Raman-amplifies the signal light by means of pump light introduced thereinto, and (2) a means of introducing light, as said pump light, whose wavelength is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman amplification, and said optical fiber for Raman amplification constituting a part or the whole of the optical transmission line of said repeater section, wherein the wavelength of said pump light is more than 1530 nm but not more than 1605 nm.

7. (Previously Presented) An optical transmission system provided with a Raman amplifier in a repeater section thereof, said Raman amplifier being equipped with (1) an optical fiber for Raman-amplification which transmits signal light and Raman-amplifies the signal light by means of pump light introduced thereinto, and (2) a means of introducing light, as said pump light, whose wavelength is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman amplification, and said optical fiber for Raman amplification constituting a part or the whole of the optical transmission line of said repeater section, wherein said optical transmission line is further provided with a dispersion compensating fiber, the chromatic dispersion of said optical fiber for Raman amplification having a sign opposite to that of the chromatic dispersion of said dispersion compensating optical fiber, the dispersion slope of said optical fiber for Raman

amplification having a sign opposite to that of the dispersion slope of said dispersion compensating optical fiber.

8. (Original) An optical fiber having an absolute value of chromatic dispersion in the range of about 0.1 to 10ps/nm/km at 1.65 μ m wavelength.

9. (Original) An optical fiber whose effective area at 1.55 μ m wavelength is equal to or less than 85% of its effective area at 1.65 μ m wavelength.

10. (Currently Amended) ~~A Raman amplifier according to claim 1,~~ A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introduced thereinto, said pump light introducing means introducing, as said pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into said optical fiber for Raman application, wherein the wavelength of said pump light is more than 1530 nm but not more than 1605 nm, and wherein said pump light introducing means have an optical multiplexer.

11. (Currently Amended) A Raman amplifier which is provided with an optical fiber for Raman amplification and a pump light introducing means, said optical fiber transmitting signal light and Raman-amplifying said signal light by pump light introducing thereinto, wherein ~~said~~ an effective core area of said optical fiber at pump light wavelength is equal to or less than 85% of the effective core area at signal light wavelength.

12. (Previously Presented) An optical transmission system provided with a Raman amplifier according to claim 11 in a repeater section thereof and said optical fiber for Raman amplification constituting a part of the whole of the optical transmission line of said repeater section.